The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

BOARD OF REGISTRATION IN OPTOMETRY

FOR THE

YEAR ENDING NOVEMBER 30, 1939

DIVISION OF REGISTRATION
DEPARTMENT OF CIVIL SERVICE AND REGISTRATION

PUBLICATION OF THIS DOCUMENT APPROVED BY THE COMMISSION ON ADMINISTRATION AND FINANCE
300. 5-'40. D-99401.

The Commonwealth of Massachusetts

DEPARTMENT OF CIVIL SERVICE AND REGISTRATION

State House, Boston

BOARD OF REGISTRATION IN OPTOMETRY

To Honorable Margaret M. O'Riordan, *Director of Registration:*

Dear Madam: The Board of Registration in Optometry has the honor to submit to you its twenty-eighth annual report as prescribed by section 67 of chapter 112 of the General Laws.

The Board during its fiscal year ending November 30, 1939 met on eighteen days. These meetings included hearings and bi-annual examinations.

The written examinations held June 12 to 14, inclusive, and November 20 to 22, were held in the Assembly rooms of the Massachusetts Society of Optometrists, 92 Tremont Street, Boston, Massachusetts.

The clinical demonstration of ability in office procedure, instrumentation, analysis, diagnosis, prescription writing, and the determination if orthoptic procedure be necessary, the correctness of glasses prescribed as to prescription conformity and the proper adjustment of glasses to a patient were held in the clinic rooms of the above mentioned Society and at the State House.

The written examinations were as follows:

Anatomy

1. (a) Give the gross dimensions of the average eyeball. (b) Name the structures that are transmitted by the following foramina: Anterior ethmoidal; Ethmoidal fissure; Infraorbital; Sphenoidal fissure; Malar.

2. (a) Discuss the blood supply of the fovea; (b) Describe the Circle of Willis.

3. Answer the following statements *true* or *false*. If false, rewrite to make statement true: (a) The Gasserian ganglion is located in the Spheno-maxillary fossa close to the Spheno-palatine foramen; (b) The fissure of Sylvius is located between the occipital and parietal lobes, just dormal to the left cerebral hemisphere; (c) The ciliary ganglion is situated in the posterior portion of the orbit and has three roots, sensory, motor and sympathetic; (d) The Solar Plexus is formed by the left superior cardiac nerve, branches of the pneumogastric and filaments from the deep cardiac plexus; (e) Golls' tract is in the dorsal region of the spinal cord next to the posterior fissure and its fibres ascend to the medulla where they end in the nucleus gracilis.

4. (a) What are the glands of Waldeyer? (b) What cranial nerve arises from the pyramid of the medulla, deeply from the floor of the 4th ventricle, beneath the eminentia teres? (c) Locate the Cervical Plexus.

John J. O'Neil, Opt. D.

June, 1939

Physiology

1. (a) Explain the variations in velocity of the blood circulation in different parts of the vascular system. (b) Give the main facts regarding the function of the vasomotor apparatus insofar as it concerns the arteries.

2. Answer the following statements *true* or *false*. If false, rewrite statement to make it true: (a) Experiments have proven that the effect of continuous conduction of electric current by a nerve fibre, is to produce extreme fatigue. (b) The horomone which regulates the amount of sugar in the blood is Cortin. (c) Experiments would indicate that visual purple is a conjugated protein of the same type of structure as hemoglobin and is related to the carotene com-

pounds. (d) That part of the brain which acts as a relay station for all afferent tracts (except the olfactory and vestibular) and passes these sensory impulses to the cerebrum, is the cuneas. (e) Miotics cause construction of the pupil by stimulating the endings of the constrictor nerve fibres in the sphincter muscle of the iris.

3. (a) Give five examples of carbohydrates, and state why each is important to the human organism. (b) Give the physical properties and chemical composition of protoplasm.

4. What is the function of Bowman's capsule in the kidney?

Pathology

1. (a) Describe the appearance of the fundus in Leukemic Hemorrhagic Retinitis. (b) How would you recognize a typical cicatrix of a ruptured choroid?

2. (a) Describe the visual fields in chronic glaucoma, in the usual order in which the departures from normal occur. (b) In what respect does a congenital crescent differ from a myopic crescent?

3. (a) Name and fully describe three types of bacteria, using sketches. (b) Define Pinguecula; Exogenous; Endogenous; Salmon-patch; Amaurosis.

4. (a) Name five possible diet deficiencies which could be contributing factors to ocular pathology and how would you recognize them. (b) What significance would you attach to a slight blurring of the disc margin limited to a portion of the Circumference?

Answer ten questions only, three from each group. The tenth may be selected from any group.

John J. O'Neil, Opt. D.

June, 1939

Practical Optometry

1. Describe in detail your subjective test for "distance" lens acceptance. What is its significance? What deductions from this finding, if any, should be allowed in order to ensure clearest visual acuity at infinity?

2. How many and what tests are required as a minimum routine optometric procedure in Massachusetts?

3. Describe the subjective test which you employ at near to assist in determining the reading or close-work correction in: (a) A young person; (b) A presbyope.

4. How is the "bi-chrome" test made and what can you learn from it?

5. Among the optometric tests routinely required by the Massachusetts Board of Registration have you an indicator to the special need of perimetry or campimetry? Explain.

6. Construct a hypothetical case needing for constant wear such a correction as: O.D. $+ 1.00 \bigcirc + 0.50$ ax 90, O.S. $+ 0.75 \bigcirc + 0.50$ ax 30, although this Rx is *not* the same as your distance subjective finding. Give age, sex and occupation of this consultant.

7. How do you apply your keratometric findings?

8. Lady patient, 42 years of age, never wore glasses. Complaint is exhaustion late in the day. Your examination shows that the maximum Rx which she could wear for distance and for her work as a waitress would be: O.D. + 0.25 S., O.S. + 0.50 S. Check which you would do: (a) Expect to help her with this lens correction; (b) Put on more plus lens O.U.; (c) Refer her back to her family physician who advised her that she is apparently "Only tired out."

9. A professional baseball player, 30 years old, never wore glasses but is in a batting slump and suspects his vision. You find his naked V. A. 20/25

O.D., O.S. and O.U. His binocular balance is very good but everything points to the need of, for 20 foot vision:

O.D. + 0.25 ⌒ + 0.62 ax. 120.
O.S. + 0.25 ⌒ 0.62 ax. 60.

What correction would you feel might help him immediately for his work as an outfielder?

10. A high school senior, girl, 17 years of age, is planning to enter college in the fall. She is a functional myope and she has been getting more myopic steadily for the past two years. This girl really needs bifocals to make her comfortable and visually efficient and to check her myopia. Give optometric data of such a case, including all needed findings, her old Rx, her last previous Rx, and her new Rx.

JOHN B. O'SHEA, Opt. D.

June, 1939.

THEORETIC OPTICS

1. A parallel pencil is incident at an angle of 35° on the plane surface of a block of glass of refractive index 1.523. Find the angle between the light reflected from the surface and that refracted into the glass.
2. In measuring the refractive index of a prism for yellow light on a spectrometer, the refracting angle is found to be 60° 14′ and the angle of minimum deviation 42° 25′. Find the refractive index of the glass.
3. A glass sphere has a diameter of 10 centimeters, index of refraction 1.53. Two bubbles appear to be: (a) exactly at the center; (b) midway between the center and the front surface. Find their actual positions.
4. A real image is formed 71 feet from a thin lens whose focal length is plus 3.69 inches. Calculate the magnification.
5. Two lamps of 30 and 20 candle power respectively are 2 meters apart. Find *two* positions on their line of centers where a screen would receive equal illumination from each lamp.

PHYSIOLOGICAL OPTICS

1. Discuss critically the Young-Helmholtz theory of color vision.
2. Define: Horopter, Vieth-Mueller circle, Panum's fusional Area.
3. Name and discuss six defects of the eye exclusive of refractive errors. (diagrams).
4. Of what clinical importance are the Purkinje-Sanson Images? What is meant by Purkinje's Figures? By the Purkinje Phenomenon?
5. Illustrating with three object-image pencils show with diagrams only an emmetropic eye: (a) With accommodation relaxed. (b) With three diopters of accommodation in use.

JOHN E. CORBETT, Opt. D.

June, 1939

THEORETIC OPTOMETRY

1. What theories are advanced for the reason of difference between astigmatic correction accepted and keratometer astigmatic findings?
2. What theory is advanced for the so called Amblyopia Ex Anopsia?
3. What is the theory of blur out points in: (a) Adduction; (b) Abduction findings.
4. What is the theory of the Clayson duo-chrome test? Illustrate.
5. What theories have been expounded as to the use of prisms for correcting exophoria?
6. Describe and illustrate the difference between a Stereo-Campimeter, Perimeter and Tangent screen.
7. What theory is advanced for the normally expected difference between the static skiametry and the correct prescription findings?

8. Give five reasons why an individual might experience difficulty when wearing a full correction for anisometropia.
9. Differentiate between quantitative and qualitative perimetry.
10. Explain and diagram adopted projection in Strabismus.

CHARLES J. COLLINS, Opt. D.

June, 1939

PRACTICAL OPTICS

1. What will be the thickness in mm. at the base of a sharp edge (knife edge) prism of 11. ⌔ Index 1.523. 50 mm. in diameter.
2. A spherical surfacing tool is made to grind a convex surface of + 0.62 D. What is the radius of curvature. Index 1.53.
3. What would the dioptral value be for the same curve as in problem 2 if the index was 1.69?
4. Transpose the following:
   a) —4.00 sph ⌔ + 4.00 cyl.
   b) —1.00 sph ⌔ + 4.00 cyl.
   c) + 4.00 sph ⌔ — 1.00 cyl.

5. Define the following terms:
   a. Addition
   b. Axis
   c. Base curve
   d. Chromatic aberration
   e. Cutting line
   f. Dispersion
   g. Distortion
   h. Far point
   i. Geometric center
   j Optical center
   k. Vertex

6. The following Rx is made in an Ultex A bifocal. Locate: 1. Distance center; 2. Reading portion center; 3. Resultant center. O.D. + 1.00 sph ⌔ +3.50 cyl. axis 135 add + 2.00 Lens 40 mm. Rd. Height of disc 16 mm. Disc nasalized 2 mm.
7. In laying out a Panoptic or Fulvue bifocal for surfacing, describe what procedure you should follow to have reading area nasalized 2.5 mm. for the left eye.
8. Write a Rx without prism in the distance in which, although the segment is nasalized 2 mm., there would be a base out effect at the reading center.
9. What type of bifocal is best for: (a) Very strong convex distance Rx; (b) Very strong concave distance Rx.
10. Describe three types of cataract lenses and explain which one is best.

WALTER IRVING BROWN, Opt. D.

June, 1939

In June, 62 applicants were examined; and in November 56 applicants were examined. There were 43 successful candidates registered as practitioners of optometry during the fiscal year.

Eight certificates of registration were revoked for nonpayment of annual registration fee. Twelve certificates were cancelled due to the decease of the practitioners.

His Excellency, Governor Leverett Saltonstall appointed Dr. Frank S. Jones of Boston on October 11, 1939 to succeed Dr. John J. O'Neil of Springfield.

At the annual meeting of the Board, Dr. Walter I. Brown of New Bedford was elected Chairman, and Dr. John E. Corbett of Boston was elected Secretary, for the ensuing year.

The Board sought legislation to give adequate protection of the visual care of the public, and House Bill #2144 was passed by both branches of the Legislature and upon recommendation of the Governor was referred to the Attorney General's office on the question of constitutionality. The Attorney General reported and recommended an amendment to the law that the Governor then returned to the Legislature with such recommendation. The bill, as amended, was passed by both House and Senate and then vetoed by the Governor. It was then enacted over the Governor's veto, on June 21, 1938.

Upon a hearing before the Justice of the Supreme Court relevant to the constitutionality of the Act by the Kay Jewelry Co., the Board was enjoined from operating in accordance with the act until such time as the constitutionality had been decided upon by the Supreme Bench.

Financial Report

Receipts

Fees received from various sources for year ending November 30, 1939	$3,746.00

Expenditures

Members' services	$1,900.00
Travel expenses	235.41
Office expenses	902.34
Total expenses	$3,037.75

Financial Statement Verified.

Approved.

Geo. E. Murphy,
Comptroller.

The clerical services of the Board are included in the appropriation of the Director of Registration, Personal Services.

Respectfully submitted,

Walter I. Brown, Opt. D., *Chairman*
John E. Corbett, Opt. D., *Secretary*
Charles J. Collins, Opt. D.
Frank S. Jones, Opt. D.
John B. O'Shea, Opt. D.